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10/762,038

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Junichi Hayashi

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EXAMINER

WANG, JIN CHENG

ART UNIT

PAPER NUMBER

2628

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/762,038

Applicant(s)

HAYASHI, JUNICHI

Examiner

Jin-Cheng Wang

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 54-56 and 63-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 54-56 and 63-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's submission filed on July 13, 2007 has been entered. Claims 1-53 and 57-62 have been canceled. Claims 54, 63, and 66 have been amended. Claims 54-56 and 63-70 are pending in the present application.

### ***Response to Arguments***

Applicant's arguments filed July 13, 2007 have been fully considered but are not persuasive in view of the ground(s) of rejection set forth in the this Office Action.

Applicant argues in essence with respect to the claim 54 and similar claims that Matsunoshita does not disclose "additional information" as required by the claim. The examiner respectfully disagrees with the applicant's argument.

Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) and in Paragraph 100 the randomly arranged dot pattern image attached to the latent image area. The randomly arranged dot pattern constitutes the additional information as claimed. The randomly arranged dot pattern requires the dot pattern to be randomly arranged which further requires information such as the random generation of the coordinates for the dot pattern. See also Paragraph 0095 wherein the black pixels are positioned at scattered points of coordinates for the pattern image and thus the pattern image at least includes the additional information such as the coordinates for the pixels or the random arranged coordinates. This arrangement of the pattern image for the latent image area requires that the additional information such as the random arranged coordinates.

The isolated dot pattern in Fig. 5(F) are dispersively positioned. When the pattern image is copied, the isolated dots attached to the latent image area are hard to be reproduced. The isolated dots in Fig. 5(F) require that the dots be arranged according to the coordinates of the dots in the latent image area and thus constitute the additional information as required by the claim. See also Paragraph 0106-0107 wherein the pattern images-additional information are attached to the latent image area that has the control information for controlling the copying operation.

The relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. Thus the relative small dots within the latent image characters will not be in the copy and thus the additional information cannot be extracted from a copy. The original image has the relatively small dots within the latent image characters and thus the additional information can be extracted from the original image. The original document image may be printed. The copy inhibition information is attached to the latent image area to distinguish from an original image. The additional information is to identify whether the printed matter is an original or a copy. Therefore, Matsunoshita teaches the claim limitation “it can be determined whether an image on a printed material is an original because the additional information can be extracted from the original image based on the positions of the arranged second dots and predetermined positions in the latent-image area, and the additional information cannot be extracted from a copy.”

Applicant argues in essence with respect to the claim 54 and similar claims that Shimada does not disclose “additional information” as required by the claim. The examiner respectfully disagrees with the applicant’s argument.

Shimada teaches Paragraph 0095 that inputting the latent image pattern portion 7 by inputting a two-dimensional coordinate system, the numbers of lines and density settings wherein the printed matter has an authenticity discrimination pattern 9 formed from dense dots. Applicant’s claim limitation of “additional information” is broadly construed, additional information is the information or dense dots or the authenticity discrimination pattern 9 attached to the latent-image area, to determine whether the printed material is original or copy.

The authenticity discrimination pattern (density settings etc) is used to identify whether the printed material is original or copy. For example, the printed matter is irradiated with a predetermined wavelength such as UV rays to identify whether the printed material is original or copy; See Paragraph 0085.

As addressed below, the Claim 54 is rejected as being anticipated by Matsunoshita US 2003/0179412 A1 (hereinafter Matsunoshita) or Shimada et al. U.S. Patent Publication No. 2004/0021311 (hereinafter Shimada).

**Shimada teaches an image processing apparatus comprising:**

**Inputting means** (*e.g., Paragraph 0092 a graphics apparatus for inputting a two-dimensional array of an image in Figs. 1-2, e.g., in a two-dimensional coordinate system set*

*forth in Paragraph 0095, that defines latent-image portion, background area-latent-image peripheral portion and additional information including the authenticity discrimination pattern-9 or wave pattern, moiré pattern, emboss pattern, etc. of Paragraph 0103) for inputting area-assignment information that defines latent-image area and background area and additional information (Paragraph 0095 wherein the latent image pattern portion 7 is disclosed including inputting a two-dimensional coordinate system, the numbers of lines and density settings wherein the printed matter has an authenticity discrimination pattern 9 formed from dense dots. Applicant's claim limitation of "additional information" is broadly construed, additional information is the information or dense dots or the authenticity discrimination pattern 9 attached to the latent-image area. The authenticity discrimination pattern (density settings etc) is used to identify whether the printed material is original or copy, e.g., the printed matter is irradiated with a predetermined wavelength such as UV rays; See Paragraph 0085);*

**Determination means for determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area-assignment information (e.g., Paragraph 0092-0097 wherein a printed matter is output after determining by the image setter which determines a two-dimensional array of an image in Figs. 1-2, e.g., in a two-dimensional coordinate system set forth in Paragraph 0095, that defines latent-image portion which as dense dots, background area-latent-image peripheral portion which has sparse dots); and**

**Generating means for generating patterned image data by arranging first dots of a first dot size at the determined positions in the background area and arranging second dots of a second dot size that is a smaller dot size than the first dot size at the determined**

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**positions in the latent-image area (e.g., Fig. 4 and Paragraph 0096-0097 discloses sparse dots for the background area and the dense dots or smaller dots for the latent image area; See Paragraph 0092-0097 wherein a printed matter is output and thereby generated by the image setter which generates an image of printed matter, e.g., in a two-dimensional coordinate system set forth in Paragraph 0095, that defines latent-image portion which has dense dots, background area-latent-image peripheral portion which has sparse dots), the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied (See Paragraph 0015; Since a moiré pattern that dazzles eyes is formed on the surface of the printed matter, the latent image can hardly be identified. When the printed matter is copied by a copying machine, only the background is reproduced while the latent image and wave pattern are not reproduced. Hence, the latent image can be recognized separately from the background. Paragraph 0084 wherein dense dots are not reproducible when copied and sparse dots are easily reproducible when copied by a copying machine; see Paragraph 0014-0015, 0086-0087 and Paragraph 0184-0188),**

**Attaching the additional information to at least the latent image area (Paragraph 0095 wherein the latent image pattern portion 7 is disclosed including inputting a two-dimensional coordinate system, the numbers of lines and density settings wherein the printed matter has an authenticity discrimination pattern 9 formed from dense dots. Applicant's claim limitation of "additional information" is broadly construed, additional information is the information or dense dots or the authenticity discrimination pattern 9 attached to the latent-image area. The authenticity discrimination pattern is employed to identify whether the printed material is original or copy, e.g., the printed matter is irradiated with a predetermined**

wavelength such as UV rays; See Paragraph 0085) such that it can be determined whether an image on a printed material is an original because the additional information can be extracted from the original image based on the positions of the arranged second dots and predetermined positions in the latent-image area (Paragraph 0088-0090 wherein the additional information can be extracted when irradiated with the UV rays from the original image on a printed material), and the additional information cannot be extracted from a copy (See Paragraph 0084 wherein dense dots are not reproducible when copied and sparse dots are easily reproducible when copied by a copying machine and thereby a copy of the printed material does not contain the additional information-e.g., the authenticity discrimination pattern; see Paragraph 0014-0015, 0086-0087 and Paragraph 0188).

**Matsunoshita teaches an image-processing apparatus comprising:**

**Inputting means** (e.g., Paragraph 0050) for inputting area-assignment information (e.g., Paragraph 0082, the cited reference discloses plural kinds of code data such as two dimensionally arrayed in an area of predetermined size to generate a unit two-dimensional array for the copy inhibition code arrays and the unit two-dimensional arrays are repeatedly arrayed in both the vertical and horizontal directions) that defines latent-image area and background area (e.g., Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) and in Paragraph 100 the randomly arranged dot pattern image attached to the latent image area. See also Paragraph 0095 wherein the black pixels are positioned at scattered points of coordinates for the pattern image and thus the pattern image at least includes the additional information such as the coordinates for the pixels and also



*the isolated dot pattern in Fig. 5(F) wherein the isolated dots are dispersively positioned. When the pattern image is copied, the isolated dots are hard to be reproduced. See also Paragraph 0106-0107 wherein the pattern images-additional information are attached to the latent image area that has the control information for controlling the copying operation. The relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The original document image may be printed. The copy inhibition information is attached to the latent image area to distinguish from an original image. The additional information is to identify whether the printed matter is an original or a copy);*

**Determination means for determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area assignment information (e.g., Matsunoshita has taught in Paragraph 0092 that a pattern number array as corresponding to the claim limitation of the area assignment information is generated having the same size as of the whole latent image wherein the values of the elements of the pattern number array are 0s, or 1s on the whole image; in Paragraph 0083, Matsunoshita has taught the pattern number array is such that latent image characters are depicted by the pattern number (e.g., 2s) according to the predetermined rules on the background in which the copy inhibition codes are condition codes are arrayed and in Paragraph 0090, Matsunoshita has taught that the periphery of the rectangular area having given vertical and horizontal sizes is entirely defined by 1s; see Paragraph 0100 wherein Matsunoshita has taught that the pattern images inside the latent image characters are different from those outside the latent image);**

**Generating means for generating a pattern image data by arranging first dots of a first dot size at the determined positions in the background area and arranging second dots of a second dot size that is a smaller dot size than the first dot size at the determined positions in the latent image area, the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied (e.g., Paragraph 0101; the relatively large dots outside the latent image are faithfully reproduced, but relatively small dots within the latent image characters cannot be faithfully copied by the copying machine; moreover, the document image and the background image containing a number of pattern images may have dots of different sizes; Figs. 3-4, 6(A)-6(B), Paragraph 0005, 0016, 0021, 0027, 0066-0069, 0100, 0101; the background image is generated having a size smaller than the document image; Paragraph 0160);**

**Information attaching means for attaching the additional information to at least the latent image area (Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) or the randomly arranged dense dots of Paragraph 0100, or the isolated dot pattern of Fig. 5(F) and Paragraph 0098, attached to the latent image area. The isolated dots are hard to be reproduced and this information can be used to determine whether the printed material is original or a copy wherein the black pixels are scattered over the pattern image positioned at scattered points of coordinates are also attached to the latent image area; see Paragraph 0095) such that it can be determined whether an image on a printed material is an original because the additional information can be extracted from the original image**

**based on the positions of the arranged second dots and predetermined positions in the latent-image area** (See Paragraph 0147-0148 and 0161-0163 wherein the original image on the printed material is read and the additional information can be extracted at least by the copying machine and the copy operation of the original image/document is allowed or prohibited. See Paragraph 0111 wherein the additional information such as the copy inhibition codes or the latent pattern images are expressed as plural kinds of pattern images are read/detected/extracted with the image reading process; moreover, in Paragraph 0116-0118 and 0129-0131 the copy inhibiting information can be extracted according to the dots or the binary data 0 and 1; see also Paragraph 0162-0163 and 0122-0123; see Paragraph 0117-0118 for the extraction of the additional information such as the copy inhibition information and condition information. See Paragraph 0089 wherein the size of the unit two-dimensional array of the condition code array as of the copy inhibition code array is defined by 20 vertical by 20 horizontal) **and the additional information cannot be extracted from a copy** (Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) or the randomly arranged dense dots of Paragraph 0100, or the isolated dot pattern of Fig. 5(F) and Paragraph 0098, attached to the latent image area. The isolated dots are hard to be reproduced and this information can be used to determine whether the printed material is original or a copy. The relatively small dots within the latent image characters cannot be faithfully copied by the copying machine; Paragraph 0101 and the large dots outside the latent image are faithfully reproduced. Because the additional information and dots in the latent-image area are not reproducible in the copy and thereby cannot be extracted from a copy).

Matsunoshita discloses in Paragraph 0111 the additional information such as the copy inhibition codes are expressed as plural kinds of pattern images are read/detected/**extracted with the image reading process**; moreover, in Paragraph 0116-0118 and 0129-0131 the copy inhibiting information can be **extracted** according to the dots or the binary data 0 and 1; see also Paragraph 0162-0163 and 0122-0123; see Paragraph 0117-0118 for the extraction of the additional information such as the copy inhibition information and condition information. See Paragraph 0089 wherein the size of the unit two-dimensional array of the condition code array as of the copy inhibition code array is defined by 20 vertical by 20 horizontal.

Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced.

In other words, Matsunoshita clearly shows that additional information is ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine in which the character image is snow white not containing characters and graphics (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. See paragraph 0110 that the characters embedded as a latent image comes forth into view when the document image is copied. See also Paragraph 0160 that the background image is located in a predetermined location of the document image.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 54-56 and 63-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimada et al. U.S. Patent Publication No. 2004/0021311 (hereinafter Shimada).

Re Claims 54, 63 and 66:

**Shimada teaches an image processing apparatus comprising:**

**Inputting means** (*e.g., Paragraph 0092 a graphics apparatus for inputting a two-dimensional array of an image in Figs. 1-2, e.g., in a two-dimensional coordinate system set forth in Paragraph 0095, that defines latent-image portion, background area-latent-image peripheral portion and additional information including the authenticity discrimination pattern-9 or wave pattern, moiré pattern, emboss pattern, etc. of Paragraph 0103*) **for inputting area-assignment information that defines latent-image area and background area and additional information** (*Paragraph 0095 wherein the latent image pattern portion 7 is disclosed including inputting a two-dimensional coordinate system, the numbers of lines and density settings wherein the printed matter has an authenticity discrimination pattern 9 formed from dense dots.*

Applicant's claim limitation of "additional information" is broadly construed, additional information is the information or dense dots or the authenticity discrimination pattern 9 attached to the latent-image area. The authenticity discrimination pattern (density settings etc) is used to identify whether the printed material is original or copy, e.g., the printed matter is irradiated with a predetermined wavelength such as UV rays; See Paragraph 0085);

**Determination means for determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area-assignment information (e.g., Paragraph 0092-0097 wherein a printed matter is output after determining by the image setter which determines a two-dimensional array of an image in Figs. 1-2, e.g., in a two-dimensional coordinate system set forth in Paragraph 0095, that defines latent-image portion which as dense dots, background area-latent-image peripheral portion which has sparse dots); and**

**Generating means for generating patterned image data by arranging first dots of a first dot size at the determined positions in the background area and arranging second dots of a second dot size that is a smaller dot size than the first dot size at the determined positions in the latent-image area (e.g., Fig. 4 and Paragraph 0096-0097 discloses sparse dots for the background area and the dense dots or smaller dots for the latent image area; See Paragraph 0092-0097 wherein a printed matter is output and thereby generated by the image setter which generates an image of printed matter, e.g., in a two-dimensional coordinate system set forth in Paragraph 0095, that defines latent-image portion which has dense dots, background area-latent-image peripheral portion which has sparse dots), the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied**

*(See Paragraph 0015; Since a moiré pattern that dazzles eyes is formed on the surface of the printed matter, the latent image can hardly be identified. When the printed matter is copied by a copying machine, only the background is reproduced while the latent image and wave pattern are not reproduced. Hence, the latent image can be recognized separately from the background.*

*Paragraph 0084 wherein dense dots are not reproducible when copied and sparse dots are easily reproducible when copied by a copying machine; see Paragraph 0014-0015, 0086-0087 and Paragraph 0184-0188),*

**Attaching the additional information to at least the latent image area** (*Paragraph 0095 wherein the latent image pattern portion 7 is disclosed including inputting a two-dimensional coordinate system, the numbers of lines and density settings wherein the printed matter has an authenticity discrimination pattern 9 formed from dense dots. Applicant's claim limitation of "additional information" is broadly construed, additional information is the information or dense dots or the authenticity discrimination pattern 9 attached to the latent-image area. The authenticity discrimination pattern is employed to identify whether the printed material is original or copy, e.g., the printed matter is irradiated with a predetermined wavelength such as UV rays; See Paragraph 0085*) **such that it can be determined whether an image on a printed material is an original because the additional information can be extracted from the original image based on the positions of the arranged second dots and predetermined positions in the latent-image area** (*Paragraph 0088-0090 wherein the additional information can be extracted when irradiated with the UV rays from the original image on a printed material*), **and the additional information cannot be extracted from a copy** (*See Paragraph 0084 wherein dense dots are not reproducible when copied and sparse*

*dots are easily reproducible when copied by a copying machine and thereby a copy of the printed material does not contain the additional information-e.g., the authenticity discrimination pattern; see Paragraph 0014-0015, 0086-0087 and Paragraph 0188).*

Re Claims 55 and 64:

**Shimada** further discloses the claim limitation wherein the additional information can be extracted based on the difference between the positions of the arranged second dots and predetermined positions in the vertical axis and the difference between the positions of the arranged second dots and the predetermined positions in the horizontal axis (Paragraph 0088-0090 wherein the additional information can be extracted when irradiated with the UV rays from the original image on a printed material).

Re Claims 56 and 65:

Shimada further discloses the claim limitation wherein the additional information can be extracted based on whether the result of multiplication of the difference between the positions of the arranged second dots and predetermined positions in the vertical axis and the difference between the positions of the arranged second dots and the predetermined positions in the horizontal axis is negative or positive (See Paragraph 0082-00910, 0095-0098 and 0128 wherein the predetermined positions are determined for the pattern image with the predetermined rules for generating the pattern number array and the additional information is extracted based on the pattern number array according to Shimada).

Claims 67-70:



Shimada further discloses the claim limitation wherein the positions of the arranged second dots correspond to the predetermined positions on a one-to-one basis and wherein the length between each of positions of the arranged second dots and each of the predetermined positions is less than half of the length between two of the predetermined positions (See Paragraph 0082-00910, 0095-0098 and 0128 wherein the predetermined positions are determined for the pattern image with the predetermined rules for generating the pattern number array and the additional information is extracted based on the pattern number array according to Shimada).

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 54-56 and 63-70 rejected under 35 U.S.C. 102(e) as being anticipated by Matsunoshita US 2003/0179412 A1 (hereinafter Matsunoshita).

**Matsunoshita teaches an image-processing apparatus comprising:**

**Inputting means (e.g., Paragraph 0050) for inputting area-assignment information (e.g., Paragraph 0082, the cited reference discloses plural kinds of code data such as two dimensionally arrayed in an area of predetermined size to generate a unit two-dimensional array**

*for the copy inhibition code arrays and the unit two-dimensional arrays are repeatedly arrayed in both the vertical and horizontal directions) that defines latent-image area and background area (e.g., Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) and in Paragraph 100 the randomly arranged dot pattern image attached to the latent image area. See also Paragraph 0095 wherein the black pixels are positioned at scattered points of coordinates for the pattern image and thus the pattern image at least includes the additional information such as the coordinates for the pixels and also the isolated dot pattern in Fig. 5(F) wherein the isolated dots are dispersively positioned. When the pattern image is copied, the isolated dots are hard to be reproduced. See also Paragraph 0106-0107 wherein the pattern images-additional information are attached to the latent image area that has the control information for controlling the copying operation. The relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. The original document image may be printed. The copy inhibition information is attached to the latent image area to distinguish from an original image. The additional information is to identify whether the printed matter is an original or a copy by deter);*

**Determination means for determining a plurality of positions in the background area which is defined by the area-assignment information and a plurality of positions in the latent-image area which is defined by the area assignment information (e.g., Matsunoshita has taught in Paragraph 0092 that a pattern number array as corresponding to the claim limitation of the area assignment information is generated having the same size as of the whole latent image wherein the values of the elements of the pattern number array are 0s, or 1s on the**

*whole image; in Paragraph 0083, Matsunoshita has taught the pattern number array is such that latent image characters are depicted by the pattern number (e.g., 2s) according to the predetermined rules on the background in which the copy inhibition codes are condition codes are arrayed and in Paragraph 0090, Matsunoshita has taught that the periphery of the rectangular area having given vertical and horizontal sizes is entirely defined by 1s; see Paragraph 0100 wherein Matsunoshita has taught that the pattern images inside the latent image characters are different from those outside the latent image);*

**Generating means for generating a pattern image data by arranging first dots of a first dot size at the determined positions in the background area and arranging second dots of a second dot size that is a smaller dot size than the first dot size at the determined positions in the latent image area, the first dots being easily reproducible when copied and the second dots not being easily reproducible when copied (e.g., Paragraph 0101; the relatively large dots outside the latent image are faithfully reproduced, but relatively small dots within the latent image characters cannot be faithfully copied by the copying machine;** *moreover, the document image and the background image containing a number of pattern images may have dots of different sizes; Figs. 3-4, 6(A)-6(B), Paragraph 0005, 0016, 0021, 0027, 0066-0069, 0100, 0101; the background image is generated having a size smaller than the document image; Paragraph 0160);*

**Information attaching means for attaching the additional information to at least the latent image area (Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) or the randomly arranged dense dots of Paragraph 0100, or the isolated dot pattern of Fig. 5(F) and Paragraph 0098, attached to the**

latent image area. The isolated dots are hard to be reproduced and this information can be used to determine whether the printed material is original or a copy wherein the black pixels are scattered over the pattern image positioned at scattered points of coordinates are also attached to the latent image area; see Paragraph 0095) such that it can be determined whether an image on a printed material is an original because the additional information can be extracted from the original image based on the positions of the arranged second dots and predetermined positions in the latent-image area (See Paragraph 0147-0148 and 0161-0163 wherein the original image on the printed material is read and the additional information can be extracted at least by the copying machine and the copy operation of the original image/document is allowed or prohibited. See Paragraph 0111 wherein the additional information such as the copy inhibition codes or the latent pattern images are expressed as plural kinds of pattern images are read/detected/extracted with the image reading process; moreover, in Paragraph 0116-0118 and 0129-0131 the copy inhibiting information can be extracted according to the dots or the binary data 0 and 1; see also Paragraph 0162-0163 and 0122-0123; see Paragraph 0117-0118 for the extraction of the additional information such as the copy inhibition information and condition information. See Paragraph 0089 wherein the size of the unit two-dimensional array of the condition code array as of the copy inhibition code array is defined by 20 vertical by 20 horizontal) and the additional information cannot be extracted from a copy (Matsunoshita discloses in Figs. 5(A)-6(C) the additional information such as the copy inhibition information (Paragraph 0062) or the randomly arranged dense dots of Paragraph 0100, or the isolated dot

*pattern of Fig. 5(F) and Paragraph 0098, attached to the latent image area. The isolated dots are hard to be reproduced and this information can be used to determine whether the printed material is original or a copy. The relatively small dots within the latent image characters cannot be faithfully copied by the copying machine; Paragraph 0101 and the large dots outside the latent image are faithfully reproduced. Because the additional information and dots in the latent-image area are not reproducible in the copy and thereby cannot be extracted from a copy).*

Matsunoshita discloses in Paragraph 0111 the additional information such as the copy inhibition codes are expressed as plural kinds of pattern images are read/detected/**extracted with the image reading process**; moreover, in Paragraph 0116-0118 and 0129-0131 the copy inhibiting information can be **extracted** according to the dots or the binary data 0 and 1; see also Paragraph 0162-0163 and 0122-0123; see Paragraph 0117-0118 for the extraction of the additional information such as the copy inhibition information and condition information. See Paragraph 0089 wherein the size of the unit two-dimensional array of the condition code array as of the copy inhibition code array is defined by 20 vertical by 20 horizontal.

Matsunoshita discloses in Figs. 5(A)-6(C) the latent image area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced.

In other words, Matsunoshita clearly shows that additional information is ALSO attached to the latent image area. For example, Matsunoshita discloses in Figs. 5(A)-6(C) the latent image

area and the additional information such as the copy inhibition information (Paragraph 0062) is attached to the latent image area wherein the relatively small dots within the latent image characters cannot be faithfully copied by the copying machine in which the character image is snow white not containing characters and graphics (Paragraph 0101) and the large dots outside the latent image are faithfully reproduced. See paragraph 0110 that the characters embedded as a latent image comes forth into view when the document image is copied. See also Paragraph 0160 that the background image is located in a predetermined location of the document image.

Re Claims 55 and 64:

Matsunoshita further discloses the claim limitation wherein the additional information can be extracted based on the difference between the positions of the arranged dots and predetermined positions in the vertical axis and the difference between the positions of the arranged dots and the predetermined positions in the horizontal axis (See Matsunoshita Figs. 5(A)-6(F) has taught the horizontal and vertical positions and the arranged dots relative to the predetermined positions 0 in the vertical axis and predetermined positions 0 in the horizontal axis. See Paragraph 0089-00910 and 0095 wherein the coordinate positions are determined).

Re Claims 56 and 65:

Matsunoshita further discloses the claim limitation wherein the additional information can be extracted based on whether the result of multiplication of the difference between the positions of the arranged dots and predetermined positions in the vertical axis and the difference between the positions of the arranged dots and the predetermined positions in the horizontal axis is negative or positive (See Matsunoshita Figs. 5(A)-6(F) has taught the horizontal and vertical

positions and the arranged dots relative to the predetermined positions 0 in the vertical axis and predetermined positions 0 in the horizontal axis).

Claims 67-70:

Matsunoshita further discloses the claim limitation wherein the positions of the arranged second dots correspond to the predetermined positions on a one-to-one basis (See Figs. 5(A)-(C)) and wherein the length between each of positions of the arranged second dots and each of the predetermined positions is less than half of the length between two of the predetermined positions (Figs. 5(A)-5(F)).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcw 